

TEACHERS' MANUAL

FOR

Happy Times with Numbers

Second Book

BY

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1951

ALLYN AND BACON

BOSTON

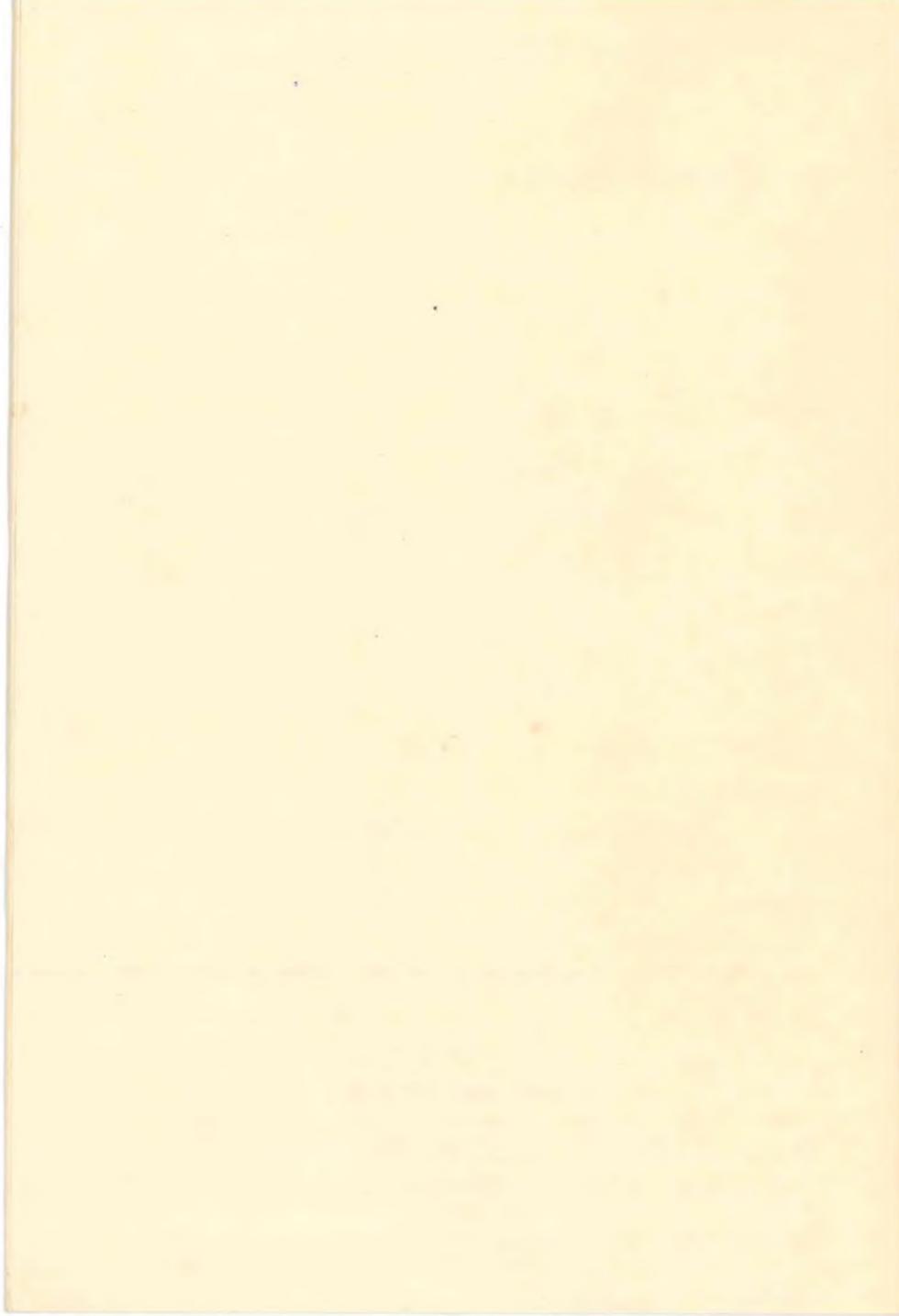
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Happy Times with Numbers — Second Book

I. Introducing the Numbers Ten to Fifty

(Before page 1)

Teach counting one to twenty by rote. Songs or poems may be used, such as the whole poem, "One, two, button my shoe."

(Page 1)

On this page, children may count, pointing to each number. Lead children to discover that the sequence, one to nine, remains the same in the teens, but each number has a one in front of it. Emphasize the similarity in the sounds of three and thirteen, four and fourteen, etc.

II. Teaching the Teens

(Before page 2)

Teaching the teens correctly and with meaning is a very important procedure. Children have always found the teens difficult because of the inadequacy of our teaching. Children must understand the use of ten in our number system, so they will have a basis for all future number work. Once this understanding has been established, the higher numbers present no difficulties. Children will not write 31 instead of 13, etc., because they will know what 13 means.

Any concrete objects may be used in the teaching of the teens. This book uses apples, but the teacher may use pencils, sticks, or anything else she desires.

Twenty children may each bring an apple to school. Place a table in front of the room with a small basket on it. Ten children may go up to the front of the room, one at a time, and place their apples on the table. After they place their apples on the table, they are to write the number on the board, in a column. For instance, the first child writes the number 1, the second writes 2, etc. Lead the children to notice that the numbers one to nine are single numbers, but when they get to ten, they have to write two numbers, a one and a zero. The teacher should explain that only one number may be written in each row, and because the ten has two numbers, the "one" has to move over to the next row, and that row is called the tens row.

Now have one child go to the table and move the ten apples, putting them in the basket. Through questions, lead the children to see that ten apples in the basket are the same as one basket of ten apples, or one ten. Then show the children how the single figures one to nine are written in the "ones" column, but when we come to the new number ten, which has two figures, we need two columns, and this new column is called the "tens."

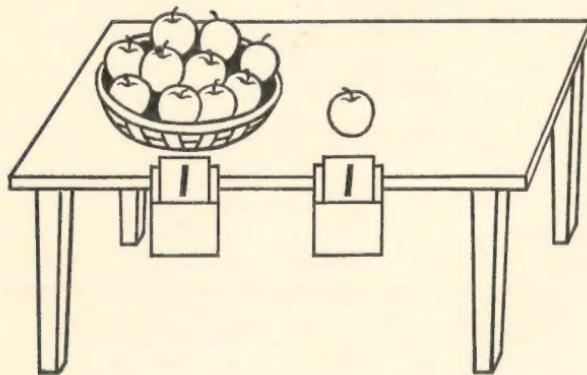
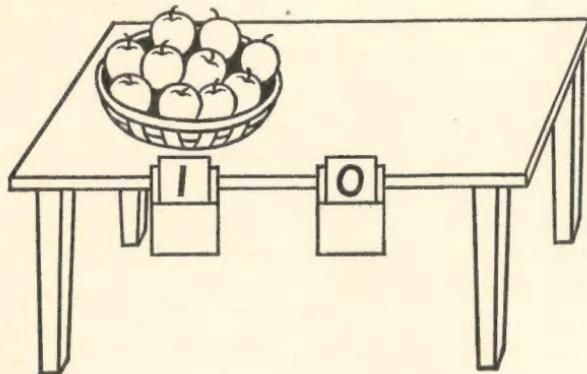
Write it on the board.

TENS	ONES
1	0

Lead the children to see that on the table they have one basket of ten apples and no more.

The teacher could make two paper pockets and thumbtack them to the table, one under the basket and one to the right of it. She could also make cardboards with the numbers zero to nine on them, one number on each card. She may place these cards on the ledge of the blackboard, or any other place where the children can see them. Then choose a child

to select the cards that tell how many apples we now have on the table. The child should select a one, showing one ten, and put it in the pocket under the basket of apples, and a zero to place in the pocket next to it, showing no more.



When the children understand this procedure thoroughly, another child may place her apple on the table to the right of the basket. The child should then change the cards to correspond to the number of apples now on the table. The child should say, "One ten and one more," and change the zero card to a one card. If the children do not know the name of this number, the teacher should tell it to them.

Follow this same procedure, adding another apple one at a time, and letting the children change the cards to correspond to the number of apples after each addition. After being told the names of the first few teen numbers, the children should be able to guess the names of the rest of the numbers, as "One ten and four more are fourteen," "One ten and five more are fifteen," etc.

When ten more apples have been placed next to the basket, a child should then put them into another basket, and the cards changed to read, "Two tens and no more."

This lesson may be followed by more practice, probably the next day. Give each child twenty sticks. Choose one child to go to the board and tell him to write one of the teen numbers. For example, the child writes 15. The children at their desks arrange their sticks into one group of ten and one group of five. The teacher may walk around the room while this game is going on, helping those children who may need help. Let the children play this game until all the teen numbers have been written on the board, and the children have had practice in making the correct groupings with their sticks.

The teacher should then write the numbers eleven to nineteen on the board in proper sequence. Ask the children to look at the numbers and see if they notice anything about the numbers. Most of the children will see that the sequence one to nine is there with a one in front of each number, the one standing for one ten.

(Pages 2 and 3)

The children are to look at the first pictures on page 2 and tell the story of what they see — one basket of ten and no more. They are then to write the numbers at the right in the correct rows.

The children are to continue with the same procedure, until they get to the last picture on page 3, which is two baskets of ten apples, or two tens. They are to write the correct numbers in the spaces provided.

(Page 4)

On this page the children are to count, "One ten and one more are —" and write the correct number; "One ten and two more are —" and write the next number. They are to complete the entire page in this manner, realizing that when they write the one, it means one ten.

(Page 5)

This page is a temporary "crutch." It gives the children practice in writing the "one ten" in front of each number from one to nine, so they will better remember that the "one ten" comes first. The children should understand that when writing these numbers, they should always write the two figures together, but for practice, just on this page, they are to write the "one ten" in front of each of the other numbers to make them a teen number.

(Page 6)

This page gives more drill on the teen numbers. The directions are at the back of the workbook. After the teacher gives the directions, the children are to proceed by themselves.

(Page 7)

On this page the children write the correct number on the line provided at the right. This page will further test their understanding of the teen numbers.

(Page 8)

This is a practice page to test the children's ability to match numbers correctly. Directions for this page are in the back of the workbook.

(Pages 9 and 10)

On these pages the children are not to count each object separately, but are to say "ten" and then count eleven, twelve, etc. They are to write the correct numbers in spaces provided.

(Page 11)

Practice in writing the teen numbers in proper sequence. Children are to start at the top of each row and fill in the correct numbers.

(Pages 12 and 13)

These pages are more drill on the make-up of the teen numbers, ten and a certain number more. Children are to draw the number of objects needed to make the teen number specified.

(Page 14)

Additional practice on writing the teen numbers. This page can be used as a check for the teacher, to see which children need additional help.

(Pages 15 and 16)

These pages contain puzzles which will test the child's ability to count sequentially from 1 to 20.

III. Counting by Tens

(Before page 17)

To teach counting by tens, the teacher may use ten bundles of ten sticks or ten boxes of ten crayons. If her children know that there are ten pennies in a dime, she may use dimes. Children are to count the objects by saying, "One ten, two tens,

three tens," etc. Teacher may have to tell them that two tens are called twenty, three tens thirty, etc. Have them listen to the similarity in sound of four tens and forty, five tens and fifty, etc.

Teacher should then write the numbers from ten to twenty on the board, and ask the children what they notice about the numbers. Lead the children to see that the sequence one to nine is the same, but that each number has a zero after it, which is a place-holder. Ask the children what the numbers would say if the zero were not there, and lead them to see that the zero is necessary to make each number a two-figured number which says "tens."

(Page 17)

Children are to count the boxes of ten apples by saying, "One ten, ten; two tens, twenty; three tens, thirty," etc.

Ask children again what the numbers would say without the zero after each number. Have them explain why we need the zero.

(Pages 18 through 21)

These pages are for practice in counting by tens. Directions for each page are in the back of the workbook.

IV. Higher Counting — One to Fifty

(Before page 22)

The teacher may use the same sticks, pencils, or pennies that were used to introduce counting by tens.

On the board she should make two columns, heading one "Tens" and the other "Ones." One child should stand at the table and count out the sticks, while another child is at the board to write down the numbers being counted. Each time the child at the table counts another stick, the child at the board writes the number in the correct column. Do this slowly, so the children can really see what is going on.

The child at the table counts 1, 2, 3, 4, 5, 6, 7, 8, 9, and when

he counts the tenth stick, he should put an elastic around the bundle of ten. Now he counts, "One ten and one, eleven; one ten and two, twelve"; etc., until he gets another ten and puts an elastic around them. Now he has two tens. The class is to continue counting each stick, and having each number recorded on the board, until they reach five bundles of sticks, or fifty. In this way, the children really build the number chart and have a real understanding of it.

(Page 22)

The class may count this row orally. The teacher may call on several children to each do a row. For example, they would count the third row like this, starting at the top of the row: "Two tens and one are twenty-one; two tens and two are twenty-two; etc.

(Pages 23, 24, 25)

These pages are for practice in writing the numbers one to fifty. Directions are in the back of the workbook.

V. Counting by Fives

(Before page 26)

Teach counting by fives with any object the teacher desires. Let children count the objects orally. Toy pennies and nickels may be used if they are available. Toy money has recently been made in copper and silver color to look quite real. If real money is used, caution the children about putting it in their mouths, and about washing their hands after handling coins.

Write the numbers on the board and let the children discover that every other number ends in zero, and is like counting by tens; and the in-between numbers all end in five.

(Page 26)

Children are to count the balloons orally. Teacher may have them counted individually and by fives.

(Pages 27 through 31)

These pages contain exercises for counting by fives. The directions for these pages are in the back of the workbook. The teacher should give the directions for each page and the children proceed by themselves.

VI. Counting by Twos**(Before page 32)**

Give each child twenty sticks, buttons, or disks. Have the children arrange the objects in groups of twos. Let the children count their objects orally.

Write the numbers one to twenty on the board. Have some children draw a line, with a colored chalk, around the numbers we use when we count by twos. Lead children to see that we use every other number and that the sequence 2, 4, 6, 8 remains the same.

(Page 32)

Children may count orally, pointing to each pair.

(Pages 33 to 36)

These pages contain exercises for counting by twos. The directions for each page are in the back of the workbook. The teacher gives the directions, and the children proceed by themselves.

VII. Big and Little**(Before page 37)**

The teacher may show the children a big book and a little book, a big ball and a little ball, etc. Have the children pick out the big objects. Teacher writes the word *big* on the board. Have the children pick out the little objects. Teacher writes the word *little* on the board. She may then show them several other big and little objects and have different children point each time to the correct word on the board.

(Page 37)

Directions for this page are in the back of the workbook. The teacher should give the children the directions and let the children proceed by themselves. Do not cut this page until page 38 has been completed.

VIII. Introducing Words

(Before page 38)

This page is to develop the ability to select a specified number from a larger number. Introduce the words *tree*, *ball*, *flower*. Directions for this page are in the back of the workbook.

(Before page 39)

Introduce the words *draw*, *wagon*, *house*. The pictures can be drawn on the board and the words written next to the pictures.

(Page 40)

This is another practice page to test the child's ability to select a specified number from a larger number.

IX. Number Words

(Before page 41)

The number words one to five should be introduced at this time. This may be done by using objects and writing the number symbol on the board with its corresponding number word. The classroom charts referred to at the beginning of the book may also be used now. When the children know the first five numbers, they may do the workbook pages 41 and 42.

(Before page 43)

Introduce the number words six to ten the same way the numbers one to five were introduced, and then the children may do the workbook pages 43 and 44.

(Before pages 45 and 46)

The teacher should review the words on these pages before the children do them. This is not a reading lesson; it is a lesson to test the child's ability to count a specified number. The children are to do these two pages by themselves after the teacher gives them the directions.

(Before page 47)

The teacher should draw a circle and a square on the board and write the names under each object. She can ask the children to tell the difference between the two objects. Children can do the page in the workbook by themselves.

(Page 48)

Before this page the children may have some oral drill on what number comes after 6, after 8, after 28, etc. They may then do page 48 in the workbook.

X. Simple Adding — One More

(Before page 49)

We are now ready to prepare the children for simple addition. There should be an object lesson before attempting this page. The teacher may say, "If I have five pencils and Thomas gives me *one more*, how many will I have?" She should do this many times, using different objects and different numbers. Lead the children to see that *one more* is always the next number.

Children may then do pages 49 and 50.

(Before pages 51 and 52)

Show the children by means of objects that two and one are the same as one and two, that three and one more is the same as one and three more, etc. They may then do pages 51 and 52.

(Pages 53 to 56)

Directions for these pages are in the back of the workbook.

(Before page 57)

Draw two balls and one ball on the board. Write a 2 under the two balls and a 1 under the one ball. Then write *and* between the two and the one and the word *are* after the one. Let the children read it and put the answer after the word *are*.

Do this with several numbers and different pictures. Then show the children a short way to write the same thing. Show them the column form of writing two and one, one and two, etc. Introduce the plus sign, explaining that it means *and*.

(Pages 57 through 61)

Directions for these pages are in the back of the workbook.

XI. Simple Take Aways — One Less*(Before page 62)*

Ask the children what comes before three. Hold up three pencils and then take one away. Do this with various numbers and different objects, until the child sees that the number preceding any specific number is always one less.

Children can have more drill by telling what number comes before 7, 4, 3, etc. Children may then do page 62.

(Before pages 63 and 64)

Draw five balls on the board and cross out one. Teacher asks, "How many are left?" Do this same thing several times, drawing different numbers of various objects on the board and asking the children how many there are in each case after one object has been crossed out.

(Pages 65 and 66)

Directions for these pages are in the back of the workbook.

(Before page 65)

Show the children the way to write "taking away" in column form. Introduce the subtraction sign. Tell the children the various ways to say a subtraction example — seven take away one, one from seven, etc. Directions for working out page 65 are in the back of the workbook.

(Before page 67)

Introduce the words *from* and *is*. The children have been saying these words in their subtraction examples, and so no new problem is presented here.

(Pages 67, 68, 69)

Directions for these pages are in the back of the workbook.

XII. One-Half

(Before page 70)

Give the children pieces of paper of various sizes. Let them fold them evenly into two parts. Some children will fold them evenly and some won't. The teacher may take several papers from the children who did fold them evenly, and show them to the class, explaining that each part is one-half of the whole paper.

She may then take some of the papers which have not been folded evenly and ask if each of those parts is one-half. Lead the children to see that each part must be equal to be one-half. The children can then practice with their other papers, deciding for themselves which children folded their papers into halves and which did not.

The children will now be ready to do page 70 in the workbook.

XIII. Making Clocks

(*Before page 71*)

Children may make clocks from paper plates. If the hands are made of different-colored paper, they can be easily told apart. They can be fastened to the paper plate with a round-head fastener, so they will move readily.

Explain that the short red hand is the hour hand and the long black hand is the minute hand. (The colors the teacher uses for the hands are immaterial, as long as they are different.) When the minute hand is on the twelve, it is on the hour, and we call that "o'clock." The number the hour hand is pointing to tells us which hour it is. The children should practice on their clocks, making them tell the time at different hours. They can then do page 71 in their workbooks.

(*Pages 72, 73, 74*)

These are review pages. Directions for each page are in the back of the workbook.